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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PENDLETON, DIONNE

ART UNIT PAPER NUMBER

2615

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/786,502

Applicant(s)

SHENNIB ET AL.

Examiner

Dionne H. Pendleton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 104-126 and 128-130 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 104-126 and 128-130 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 2/13/06
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “**sound conduction channel**” which is coupled to the sound conduction tube **81** as recited in line 4 of claim 129; as well as the “**directional feature**” recited in line 9 of claim 129, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claim 130** is rejected under 35 U.S.C. 102(b) as being anticipated by **Ward (U.S. 5,201,007)**.

Regarding claim 130, **in figure 6**, Ward teaches a canal sound conduction tube comprising a tube portion **60** for insertion into the ear canal of a user in proximity to the eardrum;

Means **70** operatively associated with the tube portion **60** for delivering sounds to an acoustically sealed space about the eardrum;

And means **82** operatively associated with the tube portion and the hearing device for concurrently directing occlusion sounds away from the ear drum, **via passageways 85**, when worn by the user.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim **104-126, 128 and 129** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ward (U.S. 5,201,007)** in view of **Fretz (U.S. 7,027,608)**.

Regarding claim 104, in **figure 6**, Ward teaches a tubular insert comprising:

A radially flexible sound conduction tube **60**, connected to a receiver section **94**, **shown in figure 3**, of a hearing device **90**, for delivering sound to the tympanic membrane **30**; and

A first concentric seal **70** projecting radially from the sound conduction tube **60** for engaging the bony part of the ear canal and forming a first confined space between the seal and tympanic membrane; said seal having a small pressure vent **76** (as shown in **figure 5A**); and also shown in **figure 6**, a second concentric seal **82** projecting from the sound tube **60** and forming a second confined space between seals, shown in **figure 7**, said second seal has a relatively larger occlusion relief vent **85** extending there through, also see **column 6, lines 56-60**.

Ward does not clearly teach that the sound conduction tube **60** is removably connected to a receiver section of a hearing device.

However, shown in **figure 1 and figure 5**, Fretz, in **column 6, line 64 through column 7, line 1**, as well as **column 7, lines 19-23** and **column 31-35**, teaches that a tubular insert **20** for transmitting an audio signal to the wearer's ear canal, which may be removably connected to the receiver section **34** of a hearing device.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Ward and Fretz, providing a sound conduction tube which may be removably connected to the receiver section of a hearing device,

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thereby permitting the wearer to choose between a variety of sound conduction tubes of different lengths, etc, so as to accommodate ears of varying sizes and dimensions (*see column 3, lines 12-25*).

Regarding claim 105, Fretz, teaches a sound conduction tube which may be selectively replaced.

Regarding claim 106, in **column 5, lines 9-10**, Ward teaches that the sound tube may be rigid or semi-rigid so that the tube may be inserted into the ear canal and retain its shape, thereby reading on “kink-resistance and non-collapse”, as claimed.

Regarding claim 107, **column 3, lines 12-25** of Fretz teaches that the sound conduction tube has generic configurations and sizes to accommodate a variety of ear canal sized and shapes.

Regarding claim 108, **in figure 7**, Ward teaches that the sound conduction tubing comprises multiple tubing **60,82** for multiple channel sound conducting or venting via plurality of channels **85**.

Regarding claim 109, Ward and Fretz appear to teach that the sound conduction tube is at least 8mm in length.

Regarding claim 110, **column 5, lines 33-36** of Ward teaches an inside diameter of the first seal **70**, being less than 2mm, thereby teaching that the smaller sound conduction tube **60** is also “not greater than 2mm” as claimed.

Regarding claim 111, Ward teaches that the sound conduction tube **60**, which includes seal member **70** with vent holes **76**, is constructed such that audio feedback

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in the high frequencies is prevented, see **column 6, lines 32-35**, thereby reading on “provide a boost for conducted sounds at the high range of audiometric frequencies.”

Regarding claim 112, Ward teaches that the first concentric seal **70** includes a pressure vent **76** in the form of a hole not greater than 0.5mm (see **column 6, lines 31-32**).

Regarding claim 113, Ward teaches that the pressure vent **76** is directly on the first concentric seal **70**.

Regarding claim 114, Ward teaches that the pressure vent **76** is indirectly incorporated along said sound conduction tube **60**.

Regarding claim 115, in **figure 5B and 5D and 5E**, Ward teaches that the sound conduction tube extends medially past the first seal **70**.

Regarding claim 116, as shown in **figures 5C**, Ward teaches that the seal is hollow of cylindrical shape.

Regarding claim 117, Ward teaches that the seals are flanged (**figure 5A**), mushroom shaped (**figure 5E**) or clustered (**figure 7**), as broadly claimed.

Regarding claim 118, Ward teaches that the cross-sectional perimeter of said seal is circular, elliptical or oval, as shown in **figures 5A, 5F and figure 7**.

Regarding claim 119, Ward teaches, in **column 5, lines 32-36**, that the seals have a span of at least 2mm.

Regarding claim 120, in **column 5, lines 37-39**, Ward teaches the use of materials suitable for use in human body cavities, reading on “antibacterial and anti-microbial”.

Regarding claim 121, The combination of Ward and Fretz fails to explicitly teach that the seals comprise lubricant to facilitate insertion and removal of the tubular insert into and from the ear canal. However, it is well known in the art that the ear canal typically contains perspiration and/or earwax, both lubricants. Therefore, Ward and Fretz each inherently teach a lubricant, for facilitating insertion and removal of the tubular insert into and from the ear canal, as claimed.

Regarding claim 122, **in figure 2**, Fretz teaches means for removably connecting **16,36** the sound conduction tube **20** to said receiver section **34**.

Regarding claim 123, **in figure 1**, Fretz teaches that the connecting means comprises a snap-on, threaded, spring-loaded, pressure-fit, or side-slide mating mechanism.

Regarding claim 124, Fretz teaches a tube connector **38** for coaxial connection of the tubular insert and receiver section.

Regarding claim 125, Ward teaches that the apparatus is for amplifying sound to the ear, reading on "for hearing enhancement of a hearing impaired wearer".

Regarding claim 126, Ward teaches that the sound tube is for connection to a hearing aid **90**, reading on "adapting said tubular insert for audio communications" as broadly claimed.

Regarding claim 128, Ward teaches a tubular insert for an ear canal of a wearer, comprising: a sound conduction tube **60** constructed and adapted for connection to a sound receiver module (**see 90,94 in figure 3**) of a hearing device, for comfortable insertion into and removal from the ear canal, and when inserted, to deliver sound

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received by the module to the tympanic membrane **30**; and as shown in figure 6, at least one appendage **70** on the sound conduction tube **60** to establish a substantially acoustically sealed space in which the sound is to be delivered to the tympanic membrane **30**; and another appendage **82** is provided on the sound conduction tube **s** *illustrated in figure 6 and figure 7*, or on the sound receiver module for cooperating with said at least one appendage **70** to direct occlusion sounds away from the tympanic membrane *via passageway 85 (also see column 6, lines 56-60)* when said tubular insert is connected to said sound receiver module and worn in the ear canal.

Ward does not clearly teach that the sound conduction tube **60** is removably connected to a receiver section of a hearing device.

However, Fretz, in *column 6, line 64 through column 7, line 1*, as well as *column 7, lines 19-23* and *column 31-35*, teaches that a tubular insert **20** for transmitting an audio signal to the wearer's ear canal, may be removably connected to the receiver section **34** of a hearing device.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Ward and Fretz, providing an sound conduction tube which may be removable connected to the receiver section of a hearing device, thereby permitting the wearer to choose between a variety of sound conduction tubes of different lengths, etc, so as to accommodate ears of varying sizes and dimensions (*see column 3, lines 12-25*).

Regarding claim 129, Ward teaches a sound conduction channel (see hollow sound transmitting construction of tube **60**), coupled to the sound conduction tube **60** for

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delivering sound to the tympanic membrane **30** within an acoustically sealed space (sealed via sealing element **70**); and a second sound conduction channel **85** (provided by sealing element **82**) simultaneously directing occlusion sounds away from the tympanic membrane (*see column 6, lines 56-60*), said second conduction channel including a directional feature **90** to direct occlusion sounds away from the tympanic membrane.

Ward does not clearly teach that the sound conduction tube **60** is removably connected to a receiver section of a hearing device.

However, Fretz, in *column 6, line 64 through column 7, line 1*, as well as *column 7, lines 19-23* and *column 31-35*, teaches that a tubular insert **20** for transmitting an audio signal to the wearer's ear canal, may be removably connected to the receiver section **34** of a hearing device.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Ward and Fretz, providing an sound conduction tube which may be removable connected to the receiver section of a hearing device, thereby permitting the wearer to choose between a variety of sound conduction tubes of different lengths, etc, so as to accommodate ears of varying sizes and dimensions (*see column 3, lines 12-25*).

Response to Arguments

4. Applicant's arguments with respect to claims 104-126 and 128-130 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dionne Harvey Pendleton



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PRIMARY EXAMINER